

Stamens, however, have not yet developed. *Boivin* 1709 consists of two leaves while *Boivin* 1709² consists of a first order branching system of an inflorescence, still young, but with more floral details available. Within the petals are three antesealous stamens; these have widely divergent anther thecae that seem to be pendulous from the tip of the filament, a most unusual stamen form, though not unique to this taxon (see also *D. lokohoensis* and *D. fasciculata*). The material is so incomplete that we cannot be certain that the leaves in *Boivin* 1709 are from the same species as the inflorescence in *Boivin* 1709². The Du Petit Thouars collection seems to be conspecific with the Boivin leaf collections. A fourth collection, probably made by Boivin, is annotated "talanouac" but consists of leaves only, matching those of the other collections.

The leaves of the three collections described above are relatively small; they have distinctive broad multifold basal and apical segments and single fold mid-leaf segments. There is a long petiole and at its base a short entire ligule. It must be said that these leaves are reminiscent of the plant previously named *Vonitra fibrosa* that has long been called *Vonitra thouarsiana*, so this may go some way to explain why Beccari based his *Vonitra thouarsiana* on Baillon's name (while preparing his description from a collection made by the Rev. Baron). *Boivin* 1709² also carries the name "vounouthre" - i.e., *vonitra*, the consistently applied vernacular name for this important and common palm. Yet there are only three stamens in *Boivin* 1709², as described by Baillon and clearly evident in the specimen, while in Beccari's new genus *Vonitra* there are six biseriate stamens. It is most surprising that Beccari did not mention this anomaly. Could it be that the four early collections represent more than one taxon? The leaves could be interpreted as juvenile *D. fibrosa* leaves. Only in *D. fasciculata* do rachilla and stamen form approach those of *Boivin* 1709², but this species has inflorescences branched to two orders; the inflorescence fragment in *Boivin* 1709² could represent the whole branched portion of an inflorescence branched to two orders, or, more likely (because of "rachis" is flattened on one side) a whole first order branching system of an inflorescence branched to three orders. It is possible that the inflorescence in the Du Petit Thouars collection represents a fragment of a very young *D. fibrosa* inflorescence, but the stamens that would allow identification have not yet developed.

Further collecting on Île Sainte Marie may sort out the problems, but at present we have a species, *Dypsis thouarsiana*, that appears to have been typified by Baillon on the Du Petit Thouars collection (the Boivin collections are mentioned as a variety) that are too young to show the diagnostic three stamens described by Baillon. The two numbered Boivin collections may not even belong to the same taxon, as one consists of leaves while the other of inflorescence fragments, and these are clearly not conspecific with *Dypsis fibrosa*.

110. DYPISIS PERRIERI

D. perrieri is a rather massive stocky, litter-trapping palm of the lower strata of rain forest. In habit it is reminiscent of other litter-trapping species such as *Masoala madagascariensis*, *Ravenea albicans*, and *Dypsis marojejyi*, having a rather short stem and large leaves that do not fall neatly from the stem. It is easily distinguished when in flower because of the large torpedo-like peduncular bract, densely covered in thick red tomentum. In shape this bract is very reminiscent of that of *Beccariophoenix madagascariensis*, but the flowers, fruit and thick tomentum are very different. Found on Marojejy and around the bay of Antongil, this species has recently been found near Antanambe, south of Mananara Avaratra. The name refers to the collector of the type, and of many other exciting palms, Joseph Marie Henry Alfred Perrier de la Bâthie (1873–1958), whose many excellent collec-

tions have given the world a wealth of information on many common, rare, and several now possibly extinct species.

DISTRIBUTION. Marojejy, Masoala and Mananara Avaratra.

HABITAT. Moist forest, on steep slopes, near waterfalls on rocks or in valley bottoms; 150–800 m.

LOCAL NAMES. *Besofina* (Betsimisaraka, meaning big ears, because of the large sheath auricles); *Menamosona* (Betsimisaraka, meaning red back, because of the red tomentum on the sheath and bracts), *Kase*.

USES. Good palm-heart.

CONSERVATION STATUS. Vulnerable. Despite its fairly large distribution area, this species is not common in any of its sites; the fact that the palm-heart is eaten is a contributing factor to its status.

***Dypsis perrieri* (Jum.) Beentje & J. Dransf. comb. nov.**

SYNONYMS:

Antongilia perrieri Jum., Ann. Inst. Bot.-Géol. Colon. Marseille sér. 4, 6 (2): 19 (1928); Cat. Pl. Madagascar, Palmae: 7 (1938); Jum. & H. Perrier, Fl. Madagascar 30: 127, fig. 34 (1945). Type: Madagascar, Maroantsetra-Mananara, *Perrier* 11946 (Holotype P).



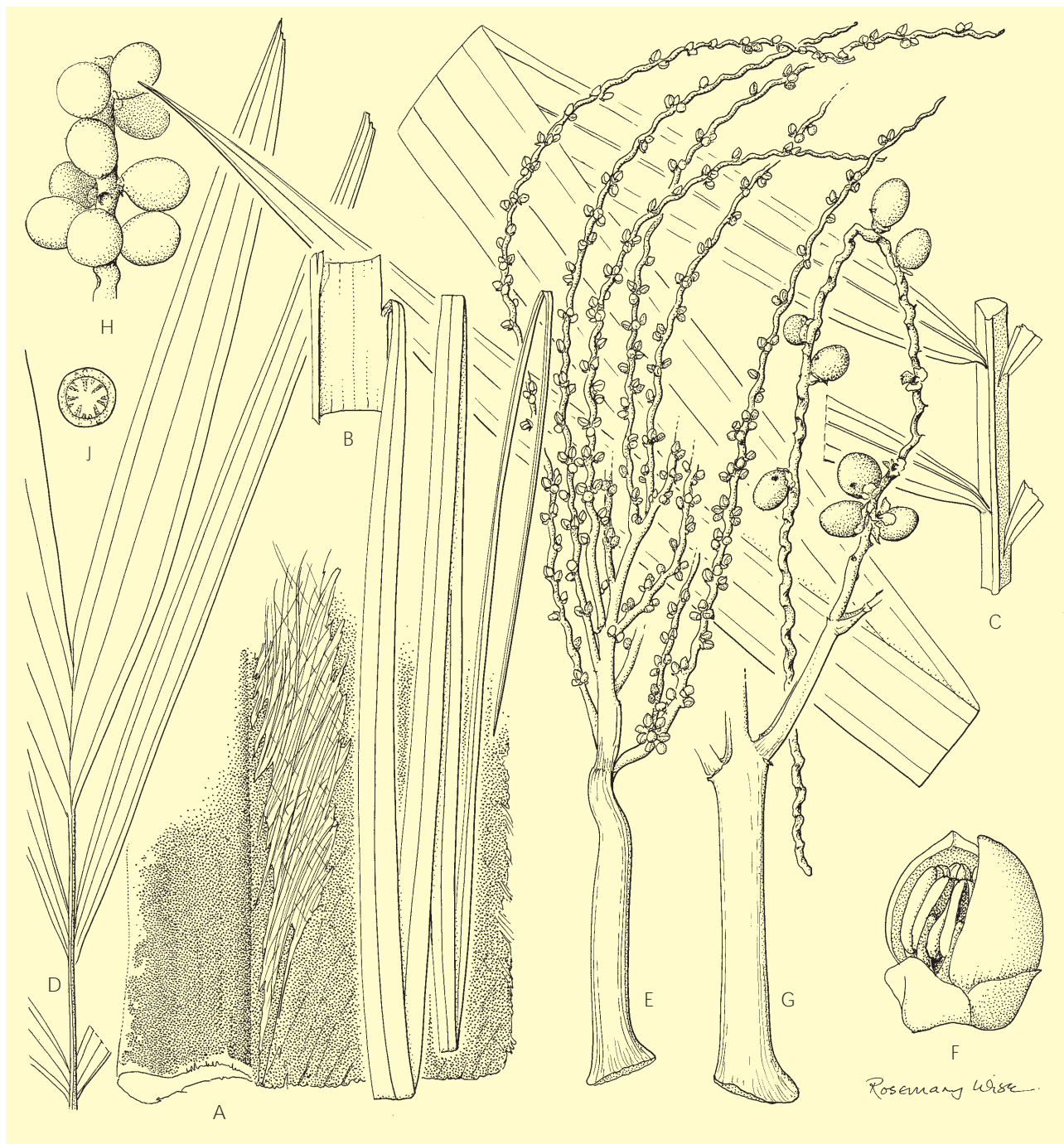
Dypsis perrieri, growing on the slopes of Marojejy.

Chrysalidocarpus auriculatus Jum., Ann. Inst. Bot.-Géol. Colon. Marseille sér. 5, 1 (1): 25 (1933); Cat. Pl. Madagascar, Palmae: 8 (1938); Jum. & H. Perrier, Fl. Madagascar 30: 117 (1945), **synon.** **nov.** Type: Madagascar, Masoala, Marambo Hills, *Perrier* 11942 (Holotype P).

Chrysalidocarpus ruber Jum., Ann. Inst. Bot.-Géol. Colon. Marseille sér. 5, 1 (1): 23 (1933); Cat. Pl. Madagascar, Palmae: 11 (1938); Jum. & H. Perrier, Fl. Madagascar 30: 100 (1945), **synon.** **nov.** Type: Madagascar, Masoala, *Perrier* 11941 (Holotype P).

Massive, squat solitary palm. **TRUNK** 2–8 m high, 20–30 cm diam., near the crown c. 12 cm diam. Trunk with marcescent leaves and persistent bases of leaf sheaths; internodes c. 4 cm; nodal scars dotted with fibre remains, c. 2 cm wide. Base of crown litter-accumulating. **LEAVES** 12–20 in the crown, porrect; sheath c. 1 m long,

abaxially densely reddish-tomentose to floccose, turning fibrous and desintegrating with age, with auricles 3–12 cm long; apparent petiole 40–160 cm long, proximally c. 5 × 2.5 cm diam., distally 3–3.5 × 2–2.7 cm, the margins often with a slight wing formed by the rein of the proximal leaflets, deeply channelled with sharp margins, abaxially densely reddish-tomentose to reddish-brown scaly, glabrescent, dark green under the tomentum; rachis c. 3–3.5 m long, proximally channelled, in mid-leaf 1.3–1.8 × 2.3 cm diam., distally keeled, with patches of pale white, pale brown or dark red tomentum of peltate lacinate scales; leaflets 45–50 on each side of the rachis, regular, rigid and plicate, adaxially dark green, abaxially bright green, the proximal 80–148 × 1.2–3.4 cm, the most proximal ones inserted at different levels, median 69–107 × 3–5.5 cm (interval [0.5–] 4–6.5 cm), distal 21–60 × 1–3 cm, the distal pair joined for 3–6 cm, main veins 3–7, apices acuminate and unequally bifid, with scattered minute scales on the minor veins, occasionally with large



Dypsis perrieri. **A** leaf sheath and fibrous margins × 2/5; **B** proximal part of leaf with lowermost leaflet × 2/5; **C** mid section of leaf × 2/5; **D** leaf tip × 2/5; **E** first order inflorescence branch × 2/5; **F** staminate flower, one petal removed × 8; **G** first order branch of infructescence × 2/5; **H** fruiting rachilla × 2/5; **J** fruit in cross section × 2. All from *Dransfield et al.* JD6749. Drawn by Rosemary Wise.

brown or red ramenta 5–15 mm long on the abaxial midrib, once (in the type) with dense silvery hairs on the abaxial midrib. **INFLORESCENCE** interfoliar to infrafoliar, branched to 2 or 3 orders, spreading to pendulous, to 2 × 1.5 m; peduncle 57–100 cm long, proximally 8–9 × 2.5 cm, distally c. 5.5 × 3.5 cm, glabrous in young fruit; prophyll erect, 40–60 cm long, c. 5.5 cm wide, borne at c. 3 cm above the base of the peduncle, rufous brown, sometimes rotting away early; peduncular bract inserted at c. 8 cm from the base of the peduncle, circumscissile and carried upwards by the lengthening inflorescence, woody, 80–150 cm long, 3.5–4 cm diam., with a 9–10 cm long beak, densely reddish tomentose, splitting over its whole length except for the distal 16–20 cm; non-tubular peduncular bracts in the distal part of the peduncle, 4–5 × 2 cm; rachis 30–40 cm long, glabrous, with 12–25 branched and 10 unbranched first order branches, the proximal of these with a rachis to 36 cm long, up to 2.2 × 1.1 cm diam. proximally, and with up to 16 second order branches; rachillae spreading or pendulous, 15–50 cm long and 2–6 mm diam.; triads distant, in slight pits, with a narrow, obtuse rachilla bract. **STAMINATE FLOWERS** cream, with sepals 1.5–3 × 1.6–3.2 mm, the outermost smallest, proximally gibbous, keeled, ovate, rounded, ciliolate; petals 4–5.2 × 2.8–3.8 mm, elliptic, acute; stamens 6, 2-seriate, the antepetalous more adaxial and inserted slightly higher up, filaments 1.3–2 mm long with slightly triangular bases, anthers 2.3–3.5 × 1–1.6 mm, dorsifixed, versatile, the locules slightly divergent proximally and obtuse or apiculate, slightly unequal, with a wide (–0.8 mm) dark-coloured connective; pistillode conical, 1–1.4 × 0.5–1.1 mm. **PISTILLATE FLOWERS** with sepals 2.2–4 × 4.5–6.5 mm, concave and enveloping through up to 230°, broadly elliptic, rounded with a fleshy, solid abaxial bulge, ciliolate; petals 5–7.5 × 5–8 mm, concave and enveloping to c. 270°, in fruit 9.7–11 mm wide, with membranous margins, broadly elliptic; staminodes 6, flat, triangular, obtuse, 0.8–1.4 mm high; gynoecium asymmetrical,



Dypsis perrieri. Detail of crown with inflorescence enclosed by the red-hairy peduncular bract and infructescence in almost mature fruit, Marojejy (*Dransfield et al.* JD6749).

3.5–4.5 mm × 2.8–4 mm. **FRUIT** ellipsoid, dull greenish brown, 15–19 × 12–16 mm, rounded or shortly stalked at the base, rounded at the apex; mesocarp up to 2 mm thick; endocarp very fibrous, with few anastomizations. **SEED** slightly obovoid or ellipsoid, 14–16 × 11–12 mm, pointed at the base, rounded at the apex, with a subbasal depression corresponding to the embryo; endosperm ruminant, with the intrusions dense, irregular, up to 1.3 mm thick but usually c. 0.3 mm thick and up to 5.5 mm deep.

NOTE. Jumelle (1928b) described this as a new genus, based on the sagittate anthers and the very fibrous endocarp of the fruit. On examining the type the first character is not correct – the locules are parallel. The second character is more difficult to evaluate, since there are no fruits present in the type.

The types of *C. auriculatus* and *C. ruber* are clearly conspecific; the fruit mentioned in the protologue of *Chrysalidocarpus auriculatus* are of doubtful provenance – they have homogeneous endosperm, so they are unlikely to belong to *D. perrieri*. These fruits were the reason why the taxon was included in *Chrysalidocarpus*, but they are not present on the P sheets of this number.

SPECIMENS SEEN. Andapa: Marojejy, Dec. 1972 (bud), *Guillaumet* 4202 (TAN); idem, NW of Mandena, Oct. 1988 (fl.), *Miller et al.* 3435 (K, MO, P, TAN); idem, N of Mandena, Nov. 1989 (fl., fr.), *Dransfield et al.* JD6749 (K, P, TAN). Antalaha: Marambo, Oct. 1912 (bud), *Perrier* 11942 (P, type of *C. auriculatus*); Masoala Peninsula, without date (fl.), *Perrier* 11941 (P, type of *Chrysalidocarpus ruber*). Maroantsetra: Antalavia, Feb. 1988 (bud), *Dransfield et al.* JD6475 (K, P, TAN); between Maroantsetra and Mananara, without date (fl.), *Perrier* 11946 (Holotype P).

SIGHT RECORDS. Mananara Avaratra: Antanambe (*Dransfield & Beentje*).

